

A NEW METHOD OF SUTURE IN OPERATIONS FOR INGUINAL AND OTHER FORMS OF HERNIA.¹

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THE great majority of surgeons concede first place to the Bassini method in the radical cure of inguinal hernia. The most important step in the operation, that upon which success depends, is the adequate closure of the internal ring. This was formerly accomplished with sutures of silk, but at present silver wire, catgut, or kangaroo-tendon are employed. It is well recognized, however, that in spite of the greatest care, and in the hands of the most experienced operators, suppuration occasionally results. Sometimes the sutures are originally contaminated, or they may become so by the hands of the surgeon, occurrences which are difficult to avoid. On other occasions infection is due to the impossibility of obtaining perfect asepsis of the skin.

Whatever the cause, the infected sutures must come away before complete recovery can ensue. With catgut this may require a number of weeks. When silk has been used, a much longer time usually elapses before the annoying sinus finally closes.

Even when the wound heals by first intention, a sluggish inflammation not uncommonly develops, leading to the formation of a sinus, which remains until the offending material works its way out.

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Endeavors have recently been made to avoid these complications, either by the use of removable sutures, or by the avoidance of sutures altogether. For instance: Harris, of Chicago (*Journal of the American Medical Association*, September, 1899), and Link, of Lemberg (*Centralblatt für Chirurgie*, No. 12, 1899), insert running sutures, which are brought out onto the surface of the skin, and subsequently extracted by pulling on their ends. Faure (*Centralblatt für Chirurgie*, No. 8, 1899, p. 242), on the other hand, splits the hernial sac longitudinally and uses the divided ends to unite the borders of the internal ring.

An objection to the first method is that it will not hold the parts firmly together in the presence of tension, which exists when the opening is at all large, or when vomiting or coughing occurs. The second method is only applicable when the sac is long and thick-walled, which is by no means always the case;



FIG. 1.—Showing suture in needle.

and it may be questioned whether the union is ever sufficiently firm when even moderate tension exists.

The procedure I am about to describe presents the following advantages: (1) It is simple and quickly executed. (2) Any reasonable amount of tension can be readily overcome, which is of paramount advantage when the internal ring is large. (3) The sutures cannot cut through, which must frequently occur in other procedures, especially if vomiting or coughing should supervene. (4) A large amount of muscle can be bunched up against Poupart's ligament, thus increasing the likelihood of permanent cure. (5) The sutures can readily be removed, leaving nothing to give rise to irritation or to a sinus.

Previous to the operation, two or three needles are threaded with long loops of silkworm-gut (silver wire may be used) (Fig.

1), and two pieces of stiff, silvered wire are procured, long enough to reach the entire length of the inguinal canal, cut through the external ring and beyond the surface of the skin (small probes answer the purpose well).

The internal ring is exposed, the sac ligated and cut off or knotted upon itself (Duplay and Cazin, *Semaine Médicale*, No-

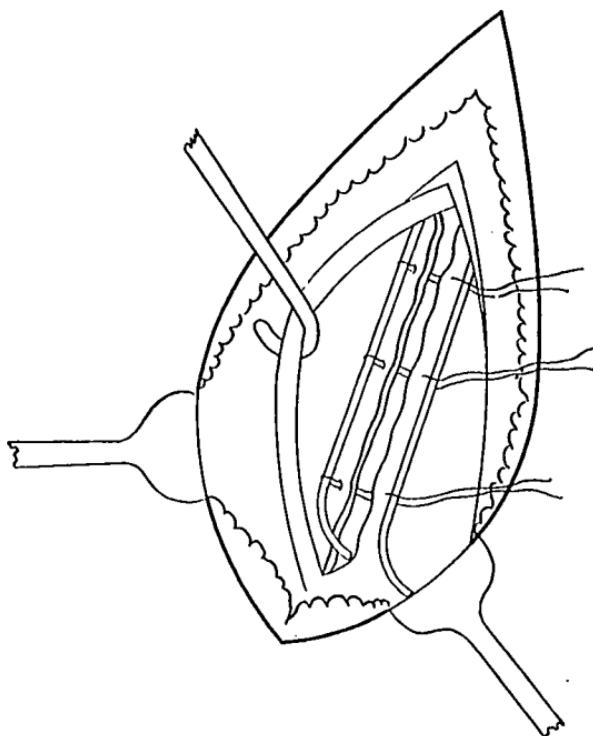


FIG. 2.—Showing position of pins and sutures before approximation.

ember 11, 1899), and the cord held out of the way. One of the silkworm-gut loops is passed from without inward through the muscular tissue on the umbilical side of the ring, well back from the margin, and fairly close to the point of exit of the spermatic cord. The loop is then carried through Poupart's ligament from within outwards, some distance from its free

edge. Another loop is similarly inserted near the pubic limits of the opening.

One of the previously prepared wires is now run through the loops, which are pulled tight enough to hold it in place. The other wire is laid along Poupart's ligament between the free ends of the loops (Fig. 2), which are firmly tied over it, thus approximating the wires and bunching a quantity of mus-

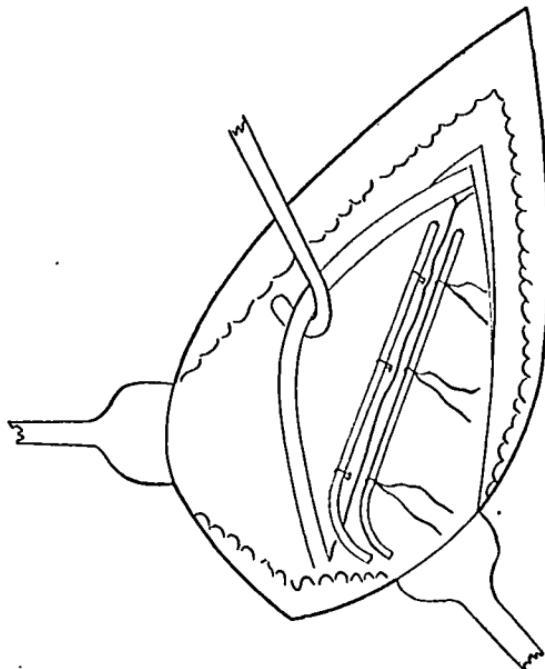


FIG. 3.—Showing position of pins and sutures after approximation.

cular tissue against the ligament. Before finally inserting the wires they should have been bent upward at their pubic extremities, so as to protrude through the external incision, thus facilitating their removal. The ends of the wires furthest from the pubes must be so placed that they leave the new internal ring neither too large nor too small.

The cord is now dropped in place over the line of union, and the aponeurosis of the external oblique united above it,

the upturned ends of the wires passing through the external ring. As the aponeurosis is not subject to tension its accurate union is not of so much importance, and Harris's removable suture may be employed if desired. Catgut, however, is not so objectionable as it is in the deeper portions of the wound, as it comes away more readily in case of suppuration.

In uniting the skin, the free ends of the loops and the ends of the wires are brought out through the incision between the stitches.

In from ten days to two weeks, which are long enough to procure reasonably firm union, the wires are removed by pulling on their protruding ends. This frees the loops, which are likewise readily extracted. It should not be lost sight of in this connection that, after union has taken place, sutures are of little or no utility; if there is no tension they are superfluous, and if there is tension they are equally so, because they will cut through the tissues.

I have employed this method three times with satisfaction,—in a boy of twelve, a man of fifty-five, and a young man with a very large internal ring. The technique is simple, and I am sure that those who try the procedure will be pleased with the results. It is especially indicated when the internal ring is large, or where tension is feared.

The method may be readily adapted to umbilical or to ventral hernia, and would probably be particularly useful in cases where the opening is large and tension correspondingly great.